

***Amendment to the Claims***

The listing of claims will replace all prior versions, and listings of claims in the Application.

1.     *(Previously presented)* A system for processing image data representing biometric data, the system comprising:  
  
        a receiving module for receiving image data captured in a first, polar coordinate system; and  
  
        a coordinate conversion module coupled to the receiving module for converting the image data captured in the first, polar coordinate system to converted image data in a second coordinate system.
2.     *(Original)* The system of claim 1 further comprising a memory coupled to the coordinate conversion module.
3.     *(Currently amended)* The system of claim 1, wherein the second coordinate system is a rectangular coordinate system.
4.     *(Canceled)*

5.        *(Currently amended)* The system of claim 1 further comprising a scanning and capturing system coupled to the receiving module wherein the scanning and capturing system comprises:

          a substantially conical prism for receiving biometric data at an exterior, convex surface; and

          a scanning imaging system optically coupled to the substantially conical prism for capturing image data in a first, polar coordinate system and for communicating the image data to the receiving module.

6.        *(Previously presented)* The system of claim 5 wherein the scanning and capturing system is coupled to the receiving module via a data network.

7.        *(Original)* The system of claim 5 wherein the second coordinate system is a rectangular coordinate system.

8.        *(Canceled)*

9.        *(Currently amended)* A system for processing image data representing biometric data, comprising:

          a substantially conical prism for receiving biometric data at an exterior, convex surface;

          a scanning imaging system optically coupled to the substantially conical prism for capturing the image data in a first coordinate system; and

          an image conversion system coupled to the scanning imaging system for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

10.       *(Previously presented)* The system of claim 9 wherein the image conversion system includes:

          a receiving module for receiving image data captured in a first, polar coordinate system; and

          a coordinate conversion module coupled to the receiving module for converting the image data captured in the first, polar coordinate system to converted image data in a second coordinate system.

11.       *(Original)* The system of claim 10 wherein the image conversion system further comprises a memory coupled to the coordinate conversion module.

12.     *(Original)* The system of claim 11 wherein the second coordinate system is a rectangular coordinate system.

13.     *(Canceled)*

14.     *(Currently amended)* The system of claim 9 ~~11~~ wherein the substantially conical prism is a conical prism.

15.     *(Currently amended)* A system for processing image data representing biometric data, comprising:

        a biometric imaging system comprising:

        a substantially conical prism for receiving biometric data at an exterior, convex surface, a ~~an~~ scanning imaging system optically coupled to the substantially conical prism for capturing the image data in a first coordinate system, and a first image conversion system coupled to the scanning imaging system for generating and storing conversion data; and

        a second image conversion system coupled to the biometric imaging system for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

16. *(Original)* The system of claim 15 wherein the first image conversion system includes:

a receiving module for receiving image data captured in a first coordinate system;  
and

a coordinate conversion module coupled to the receiving module for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

17. *(Original)* The system of claim 16 wherein the second image conversion system includes:

a receiving module for receiving image data captured in a first coordinate system;  
and

a coordinate conversion module coupled to the receiving module for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

18. *(Original)* The system of claim 15 wherein the second coordinate system is a rectangular coordinate system.

19. *(Original)* The system of claim 18 wherein the first coordinate system is a polar coordinate system.

20.     *(Previously presented)* A system for processing image data representing biometric data, wherein the system comprises:

        a conversion module configured to convert image data captured in a first, polar coordinate system to converted image data in a second coordinate system.

21.     *(Original)* The system of claim 20 wherein the second coordinate system is a rectangular coordinate system.

22.     *(Canceled)*

23.     *(Previously presented)* A method for processing image data representing biometric data comprising:

        receiving the image data captured in a first, polar coordinate system and storing the captured image data; and

        converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system.

24.     *(Original)* The method of claim 23, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

25.     *(Canceled)*

26. *(Previously presented)* The method of claim 23, wherein the method further comprises generating and storing a conversion data array including coordinate and offset data.

27. *(Original)* The method of claim 23, further comprising:  
prior to receiving captured image data, receiving criteria associated with specifications for processing the captured image data; and  
generating and storing at least conversion data array corresponding to the received criteria.

28. *(Original)* The method of claim 27 further comprising generating and storing at least one conversion parameter corresponding to the received criteria.

29. *(Canceled)*

30. *(Original)* The method of claim 27 wherein each of the at least one conversion data array is generated dynamically.

31. *(Canceled)*

32.     *(Previously presented)* A method for processing image data representing biometric data in a system having a scanning and capturing system and an image conversion system, comprising:

generating and storing conversion data in the image conversion system;

capturing in the scanning and capturing system the image data in a first, polar coordinate system;

communicating the captured first, polar coordinate system image data to the image conversion system; and

converting the captured first, polar coordinate system image data to converted image data in a second coordinate system.

33.     *(Canceled)*

34.     *(Previously presented)* The method of claim 32, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

35.     *(Canceled)*

36.     *(Canceled)*

37.     *(Canceled)*



38.     *(Previously presented)* A method for processing image data representing biometric data, the system comprising:

          capturing the image data in a first, polar coordinate system; and

          converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system.

39.     *(Canceled)*

40.     *(Original)* The method of claim 38, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

41.     *(Previously presented)* The method of claim 38, further comprising generating and storing conversion data, wherein the conversion data includes polar coordinate and polar offset data.

42.     *(Canceled)*

43.     *(Previously presented)* A method for processing image data representing biometric data, the method comprising:

          receiving the image data captured in a first coordinate system and storing the captured image data; and

          converting the captured image data in the first coordinate system to converted image data in a second coordinate system, wherein the converting comprises:

for each pixel in an output rectangular area, the steps of:  
performing a look up to obtain conversion data including the coordinate data and  
the offset data associated with respective pixel coordinates;  
retrieving at least one sample of stored captured image data; and  
interpolating each retrieved sample with weighting based on the looked up offset  
data to obtain a respective pixel value in the second coordinate system.

44.     *(Previously presented)* A method for processing image data representing  
biometric data in a system having a scanning and capturing system and an image  
conversion system, the method comprising:

generating and storing conversion data in the image conversion system;  
capturing in the scanning and capturing system the image data in a first  
coordinate system;

communicating the captured first coordinate system image data to the image  
conversion system; and

converting the captured first coordinate system image data to converted image  
data in a second coordinate system, wherein the converting comprises: for each pixel in  
an output rectangular area, the steps of:

performing a look up in a conversion data array to obtain conversion data  
including the coordinate data and the offset data associated with respective pixel  
coordinates;

retrieving at least one sample of stored captured image data; and

interpolating each retrieved sample with weighting based on the looked up offset data to obtain a respective pixel value in the second coordinate system.

45.     *(Previously presented)* The method of claim 44 wherein the step of interpolating each retrieved sample includes calculating the weighting.

46.     *(Previously presented)* The method of claim 44 wherein the step of interpolating each retrieved sample includes performing a look up to determine the weighting.

47.     *(Previously presented)* A method for processing image data representing biometric data, the method comprising:

capturing the image data in a first coordinate system;

converting the captured image data in the first coordinate system to converted image data in a second, rectangular coordinate system, wherein the converting comprises:

for each pixel in an output rectangular area, the steps of:

performing a look up to obtain conversion data including the polar coordinate data and the offset data associated with respective pixel coordinates;

retrieving at least one sample of stored polar space image data; and

interpolating each retrieved sample with weighting based on the looked up polar offset data to obtain a respective pixel value in rectangular image space; and

generating and storing conversion data, wherein the conversion data includes polar coordinate and polar offset data.

48. (New) A method for processing image data representing biometric data comprising:

receiving the image data captured in a first, polar coordinate system and storing the captured image data;

prior to receiving the captured image data, receiving criteria associated with specifications for processing the captured image data;

generating and storing at least one conversion parameter corresponding to the received criteria; wherein the at least one conversion parameter includes a parameter indicating an interpolation method to be used during conversion;

converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system; and

generating and storing at least a conversion data array corresponding to the received criteria.